

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

C.R. BARD, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 96-589-SLR
	)	
MEDTRONIC, INC.,	)	
	)	
Defendant.	)	
	)	

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**MEMORANDUM OPINION**

Dated: April 23, 2001

Wilmington, Delaware

**ROBINSON, Chief Judge**

**I. INTRODUCTION**

Pending before the court is the proper interpretation of the mandate rendered by the United States Court of Appeals for the Federal Circuit in this case.<sup>1</sup> (D.I. 193) C.R. Bard, Inc. v. Medtronic, Inc., No. 99-1475 (Fed. Cir. June 29, 2000)). According to the Federal Circuit, it is appropriate to consult the opinion delivered by the Court at the time its mandate was rendered in order to ascertain what was intended by the mandate. See Laitram Corp. v. NEC Corp., 115 F.3d 947, 952 (Fed. Cir. 1997). With that principle in mind, the procedural posture of this case shall be reviewed.

**II. BACKGROUND**

Plaintiff C.R. Bard, Inc. ("Bard"), the assignee of U.S. Patent No. 5,484,474 ("the '474 patent"), sued defendant Medtronic, Inc. ("Medtronic") for infringement of the '474 patent. The '474 patent is directed to a filter for removing gas bubbles and particulate material from liquid, particularly from blood. The issues of infringement and validity were tried to a jury. The jury found that Medtronic infringed claims 1, 3-6, 8,

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<sup>1</sup>The court was asked by Bard to reconsider the conclusions contained in its memorandum order issued on January 31, 2001. (D.I. 234)

10-13, and 15 of the '474 patent<sup>2</sup> under the doctrine of equivalents, that its infringement was willful, and that the patent was not invalid for anticipation or obviousness. The jury awarded damages to Bard in the amount of \$3,277,534.00. Medtronic moved for judgment as a matter of law ("JMOL") that it did not infringe the patent and that the patent was invalid for obviousness, which motion was denied by this court. Medtronic then appealed the denial of its JMOL.

Specifically, on appeal Medtronic challenged this court's construction of the "housing" and "filter element

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<sup>2</sup>Claim 1 is representative of the independent claims of the patent. The emphasized language denotes the claim limitations at issue.

1. A filter for filtering fluids, comprising:
  - a housing defining a substantially toroidal flow path** and a filter element chamber;
    - a fluid inlet in fluid flow communication with the substantially toroidal flow path and directed substantially tangential to the fluid flow path; wherein the height of the substantially toroidal flow path rises from the location of the inlet, around the periphery of the housing to a highest point located approximately 180° opposite the fluid inlet;
    - a gas outlet aperture located at the highest point on the substantially toroidal flow path; and in gas flow communication with the substantially toroidal flow path and located approximately 180° from the fluid inlet with respect to the substantially toroidal flow path;
    - a filter element supported within the filter element chamber of the housing;
    - a filter element support located within the housing and centrally disposed with respect to the toroidal flow path;**
  - and
  - a fluid outlet in fluid flow communication with the filter element chamber.

(Emphasis added)

support" limitations of the claims. With respect to the housing limitation, this court accepted Bard's assertion that a substantially toroidal flow can occur in a non-toroidal housing, and construed the phrase as requiring "that the housing (although not necessarily toroidal in shape) must determine with precision a fluid flow path having the shape of a substantially closed curve which rotates about, but does not intersect or contain, an axis in its own plane." C.R. Bard, Inc. v. Medtronic, Inc., 1999 U.S. Dist. LEXIS 9875 at \*3 (D. Del. 1999). The Federal Circuit rejected this construction, finding instead that,

[a]llthough the patent states that "shapes other than a toroid may be used for further embodiments," id. at col. 4, ll. 18-19, it does not indicate that a housing of any other shape would "define a substantially toroidal flow path," as recited in the claims. The only structure described in the patent as providing a toroidally shaped flow path is a toroidally shaped housing. We therefore construe the "housing" limitation as requiring that the housing itself be toroidally shaped.

C.R. Bard, Inc. v. Medtronic, Inc., 2000 U.S. App. LEXIS 15316 at \*8 (Fed. Cir. 2000).<sup>3</sup>

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<sup>3</sup>In further explanation of its claim construction, the Federal Circuit recited the following excerpt from the specification of the '474 patent (col. 4, ll. 20-34):

The toroidal configuration provides a smooth, curved flow path of maximum radius to minimize or reduce aggressive agitation of the fluid during its flow. Due to the central indentation 22 defined by the toroid-shaped housing cover 14, the curved fluid flow path is radially spaced from the central axis of the

This court also construed the "filter element support located within the housing and centrally disposed with respect to the toroidal flow path" limitation. Accepting once again Bard's construction, this court determined that the term "support" included "the upper and lower potting material," but did not require "support from the top by a structure descending from the housing cap." C.R. Bard, Inc. v. Medtronic, Inc., C.A. No. 96-589-SLR, slip op. at 20 (D. Del. May 7, 1998)(Memorandum Order). Once again, the Federal Circuit rejected this construction.

In view of the teachings in the '474 patent and the prosecution history surrounding the addition of this limitation to the claims, we construe the "filter element support" limitation as requiring a structural support for the filter element (not just potting material) that is centrally disposed with respect to the toroidal flow path, at the top of the filter element.

C.R. Bard, 2000 U.S. App. LEXIS at \*14-15. The Federal Circuit concluded:

Because the jury verdict as to Medtronic's infringement of the '474 patent and the district

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housing 12. This allows the radius of curvature of the fluid flow path (and, thus, the length of the path) to be maximized, while containing the path within the housing cover. Maximizing the length of the fluid flow path tends to maximize the time period in which a given volume of fluid flows through the length of the path (for a given flow velocity) and, therefore, maximizes the amount of time in which gas bubbles may be drawn from the fluid.

court's denial of Medtronic's request for JMOL of noninfringement were based on an erroneous claim construction, we vacate the judgment of infringement and the denial of Medtronic's JMOL of noninfringement, and remand for a determination of the infringement issue under the correct claim construction.

Id. at \*15. The mandate rendered by the Federal Circuit in this case reads:

For the foregoing reasons, we vacate the judgment of infringement and the district court's denial of Medtronic's JMOL of non-infringement and affirm the district court's denial of Medtronic's JMOL of invalidity. We remand the case to the district court for further proceedings consistent with this opinion.

Id. at \*19.

On remand, Medtronic filed a renewed motion for JMOL on noninfringement. In support of its motion, Medtronic argues that, because its filter's housing is not toroidally shaped, there can be no literal infringement. Bard does not contest this assertion. Medtronic goes on to argue, however, that

[t]here is no infringement under the doctrine of equivalents because the function of the toroidal housing is to add more surfaces than a simple cylindrical structure, so that the additional surfaces can constrain the blood to flow in a toroid. No such additional surfaces are present in the Medtronic device.

(D.I. 204 at 2-3) With respect to the "filter element support" limitation, Medtronic argues that its filter

does not have a filter element support in the space between the filter cap and the ceiling of the housing because "the space between the filter cap and the housing cap is empty."

Consequently, there is no literal infringement. There is no infringement under the doctrine of equivalents because no element in the Medtronic filter performs the same function as the filter element support. Bard's patent identifies this function as providing support for the filter element by attaching it to the top of the housing to obviate the need for a central core. Medtronic's device has no such element and in fact utilizes a central core.

(D.I. 204 at 3)

Bard responded, first, by arguing that

[t]he Federal Circuit's new claim constructions require a new trial. On its appeal, Medtronic requested from the Federal Circuit the very same relief that it is now seeking from this Court. The Federal Circuit did not grant Medtronic's request. Instead, it remanded the case **"for a determination of the infringement issue under the correct claim construction."** . . . That determination cannot occur until Bard has been fully heard on the infringement issue under the Federal Circuit's claim constructions. As a matter of basic procedural fairness, a party must be allowed to present its case when the court changes the law. . . .

(D.I. 207 at 11-12) Bard went on to argue that if the court were to consider the merits of Medtronic's motion for JMOL, there was sufficient evidence in the trial record to deny the motion on the issues of infringement under the doctrine of equivalents for the "housing" limitation and under literal infringement for the "filter element support" limitation.

Subsequent to the completion of briefing on the JMOL motion, Medtronic submitted supplemental papers citing the Federal Circuit's decision in Festo Corp. v. Shoketsu Kinzoku

Kogyo Kabushiki Co., 234 F.3d 558 (Fed. Cir. 2000), for the proposition that “[p]rosecution history estoppel applies to both of these claim limitations and eliminates any range of equivalents.” (D.I. 219 at 3) Bard apparently concedes that, under the reasoning of Festo, it is estopped from claiming infringement of the “filter element support” limitation under the doctrine of equivalents. With respect to the “housing” limitation, however, Bard argues that Medtronic has waived any prosecution history estoppel defense it may have had in this regard by never specifically asserting this defense in connection with the “housing” limitation. Bard further asserts that the Federal Circuit’s mandate bars the application of prosecution history estoppel to the “housing” limitation on remand:

The Federal Circuit had the prosecution history of the ‘474 patent before it on appeal. It remanded the case “for a determination of the infringement issue under the correct claim construction.” It did not hold that Bard was estopped from asserting infringement of the “housing” limitation under the doctrine of equivalents. On the contrary, the Federal Circuit remanded the case to this Court to decide whether Medtronic infringes the claims of the ‘474 patent under the doctrine of equivalents.

(D.I. 236 at 9) As to the merits of the issue, Bard argues that there has been no clear and unmistakable surrender of subject matter and, therefore, Bard is not estopped from asserting infringement of the “housing” limitation under the doctrine of equivalents.



### III. STANDARD OF REVIEW

Clearly, a "district court's actions on remand should not be inconsistent with either the letter or the spirit of the mandate" of a circuit court of appeals. Laitram, 115 F.3d at 951. The directive that the district court cannot give relief beyond the scope of the mandate is further illuminated, however, by the "the general rule that an appellate mandate governs only that which was actually decided." Exxon Chem. Patents, Inc. v. Lubrizol Corp., 137 F.3d 1475, 1478 (Fed. Cir. 1998). Although the Federal Circuit recognizes that "in some cases issues not explicitly addressed by an appellate court may nonetheless be decided by necessary implication," id., it would be incorrect to conclude that the court of appeals decided by implication any issue "never previously passed upon" by the district court and "never submitted to or decided by the appellate court" on appeal. Laitram, 115 F.3d at 952. See also Exxon, 137 F.3d at 1479.

In this case, Bard contends that the Federal Circuit's mandate bars the consideration of any legal doctrines which would preclude resolution of the infringement issue other than by trial. Based upon the above principles, the court disagrees. The issue of prosecution history estoppel as it relates to the "housing" limitation was never passed upon by this court and was neither specifically submitted to nor decided by the Federal Circuit. Contrary to Bard's assertion, the Federal Circuit did

not specifically direct that the "determination of the infringement issue" be made by a jury after trial. This court, therefore, concludes that the appellate mandate does not preclude it from entertaining a renewed JMOL on the issue of infringement, so long as the consideration is otherwise consistent with the Federal Circuit's ruling.<sup>4</sup>

The question that remains is whether Bard is estopped, as a matter of law, from pursuing its claim of infringement by equivalents as to the "housing" limitation.

#### **IV. ANALYSIS**

##### **A. Prosecution History Estoppel**

As noted by Bard, the Federal Circuit had the prosecution history of the '474 patent before it on appeal. During the prosecution of the '474 patent, the examiner opined that the Siposs reference showed a "toroidal flow path." (Office Action dated July 26, 1994 at 3) In response, the patentee acknowledged that "blood tangentially entering Siposs' circular chamber 54 may well flow in a circular path along the peripheral wall of the circular chamber 54." (Response to July 26, 1994 Office Action, dated November 22, 1994 at 11) Nonetheless, the

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<sup>4</sup>The court notes that even Bard concedes that "the infringement issue" will not be resolved entirely by way of trial, given Bard's concession that, as a matter of law, it cannot pursue literal infringement of the "housing" limitation or infringement by equivalents of the "filter element support" limitation.

patentee argued that:

Siposs does not appear to have expressly recognized a "toroidal flow path" occurring within the "circular" chamber 54, much less any benefit of enhancing such "toroidal flow path." (Siposs does not appear to mention the term "toroidal.") Siposs teaches a conical cap interior with a central apex defining the highest elevation for channeling gas to the central vent 48. A central indentation in the cap would destroy Siposs' intended operation of congregating gas in the center of the chamber . . . . Thus, Siposs provides no suggestion of (and teaches away from) a central indentation and a laterally offset gas vent as claimed.

(Id. at 13) Having acknowledged that Siposs could be characterized as having a "toroidal flow path," the patentee distinguished its invention from Siposs by arguing that the circular housing of Siposs was not intended to nor did it "enhanc[e] such 'toroidal flow path.'" The only structure described in the '474 patent that **enhances** the toroidal flow path over the prior art structures is the central indentation, absent in Siposs.

On appeal, of course, the Federal Circuit subsumed this very concept into its claim construction, holding that the housing of the filter had to itself be toroidally shaped in order to define a "substantially toroidal flow path." In examining the

validity of the '474 patent, the Court further distinguished Siposs as

teach[ing] away from [a "toroidally shaped"] housing when it states that "any surface contact with blood may cause platelet damage" and that "it is desirable to minimize the surface area in contact with the flowing blood." Siposs pat., col. 1, ll. 46-50. A toroidally shaped housing has more surfaces that come into contact with blood than a cylindrical housing. In addition to the internal surface of the outer wall of the filter housing, a toroidally shaped housing has the internal surface of the wall that forms the inner boundary of the toroid. A toroidally shaped housing therefore has more surfaces that are in contact with the blood than the filter of Siposs, which is directly contrary to the teachings of Siposs. Siposs therefore teaches away from toroidally shaped housings.

C.R. Bard, 2000 U.S. App. LEXIS at \*18-19.

As made apparent from the prosecution history of the '474 patent, the examiner equated the patentee's "toroidal flow path" with the prior art's "circular flow path." Consistent with this interpretation and because the patentee was focused on the "fluid flow path" and not on the structure defining such, the patentee characterized the invention as simply "enhancing" such a fluid flow path. The Federal Circuit, not the patentee, distinguished between the prior art's "circular flow path" and the '474 patent's "housing" limitation, by holding that one cannot have a "substantially toroidal flow path" without a "toroidally shaped housing" to provide a "smooth, curved flow path of maximum radius to minimize or reduce aggressive agitation

of the fluid during its flow." (Col. 4, ll. 20-23) Under these unusual circumstances, where the patentee held itself out as embracing rather than rejecting the prior art, the doctrine of prosecution history estoppel does not constitute a good analytical match. The court, therefore, declines to find that prosecution history estoppel is a bar to litigating infringement under the doctrine of equivalents.<sup>5</sup>

### **B. Doctrine of Equivalents**

Notwithstanding the above, the question remains whether Bard is entitled on this record to try the issue of infringement under the doctrine of equivalents when Medtronic's non-toroidal shaped housing was in the prior art at the time the patent issued. The question "whether an asserted range of equivalents would cover what is already in the public domain - is one of law . . . ." Wilson Sporting Goods v. David Geoffrey & Assoc., 904 F.2d 677, 683 (Fed. Cir. 1990). The court concludes that Bard is not precluded as a matter of law from trying the infringement issue to a jury.

The Federal Circuit has declared that "a claim may consist of all old elements . . . , for it may be that the combination of the old elements is novel and patentable. Similarly, it is well established that a claim may consist of all

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<sup>5</sup>As a consequence, the court need not address the issue of whether Medtronic waived its right to assert prosecution history estoppel as a defense.

old elements and one new element, thereby being patentable."

Clearstream Wastewater Systems, Inc. v. Hydro-Action, Inc., 206 F.3d 1440, 1445 (Fed. Cir. 2000). Examining this principle in the context of the doctrine of equivalents, the Federal Circuit has explained that,

[a]lthough under the doctrine of equivalents prior art restricts the extent to which patent protection can be equitably extended beyond the claims to cover an accused device, the policies underlying that concept are not served by restricting claim **limitations** in the same manner. Claim limitations may, and often do, read on the prior art, particularly in combination patents.

That all elements of an invention may have been old (the normal situation), or some old and some new, or all new, is however, simply irrelevant. Virtually all inventions are combinations and virtually all are combinations of old elements.

Intel Corp. v. U.S. Int'l Trade Comm., 946 F.2d 821, 842 (Fed. Cir. 1991) (citing Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698 (Fed. Cir. 1983)).

These cases suggest that the Federal Circuit will recognize a range of equivalents for a combination claim, even though one or more of that claim's limitations read on the prior art. Applying that lesson to the record at bar, the court concludes that Bard is not precluded, as a matter of law, from trying to a jury the issue of infringement by the doctrine of equivalents even where the accused "housing" and fluid flow path

are found in the prior art.

The final question is whether there is a triable issue of fact for the jury in this regard. "There is a triable issue of fact only if the evidence is such that a reasonable jury could resolve the question in favor of the patentee." Dawn Equipment Co. v. Kentucky Farms, Inc., 140 F.3d 1009, 1017 (Fed. Cir. 1998). "To establish infringement under the doctrine of equivalents, the accused device must be shown to include an equivalent for each literally absent claim limitation." Id. at 1015.

At the first trial, Bard's experts testified that when a circular housing is combined with a tangential inlet and a high rate of blood flow, the circular housing functions to define a "substantially toroidal flow path." (D.I. 161 at 371:3-372:13; D.I. 165 at 1207:2-23; 1224:17-1225:22) Although the Federal Circuit has at least implied that Medtronic's circular housing, like that of Siposs, "plays a role substantially different from"<sup>6</sup> the "housing" limitation, the court is cognizant of the fact that the Federal Circuit did not direct entry of judgment in favor of Medtronic on infringement and that Bard has experts who will testify to the contrary. Based on this record, the court will not take the infringement inquiry away from the jury.

## **V. CONCLUSION**

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<sup>6</sup>Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (1997).

For the reasons stated, the court concludes that Bard is not precluded as a matter of law from trying to a jury the issue of whether the accused device infringes the "housing" limitation under the doctrine of equivalents. An appropriate order shall issue.



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FOR THE DISTRICT OF DELAWARE

C.R. BARD, INC.,	)	
	)	
Plaintiff,	)	
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v.	)	C.A. No. 96-589-SLR
	)	
MEDTRONIC, INC.,	)	
	)	
Defendant.	)	
	)	

**ORDER**

At Wilmington this 23rd day of April, 2001, consistent with the memorandum opinion issued this same day;

IT IS ORDERED that:

1. Medtronic's renewed motion for judgment as a matter of law of noninfringement is denied.
2. Plaintiff's counsel shall initiate a telephonic scheduling conference on **Friday, May 11, 2001 at 9:00 a.m.**

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United States District Judge